

receiving the second processed image signal from the external computer via the first bidirectional general-purpose interface;

outputting the first or the second processed image signal to a printer via a second bidirectional general-purpose interface of a same standard as said first bidirectional general-purpose interface;

CA2 performing copying based on the second processed image signal in a first copying mode, in which the image signal output from the scanner is outputted to the printer without using the external computer by transmitting the image signal from the scanner in order of: the control unit, the first bidirectional general-purpose interface, the external computer, the first bidirectional general-purpose interface, the control unit, and the second bidirectional general-purpose interface.

REMARKS

This application has been reviewed in light of the Office Action dated December 28, 2001. Claims 24, 26, 27, 29, 58, and 59 remain pending in this application. Claims 24 and 27 have been amended to define still more clearly what Applicants regard as their invention, in terms that distinguish over the art of record. Claims 24 and 27 are in independent form. Favorable reconsideration is requested.

Claims 24, 26, 58, and 59 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not disclosed in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application

was filed, had possession of the claimed invention. Without conceding the correctness of the rejection, Applicants have cancelled the language referred to in the Office Action and amended Claim 24 to include the expression “(the second copying mode,) performed in sequence in response to a single designation,” so as to more clearly describe the claimed invention. Support for the operation of the second copying mode being performed in sequence in response to a single designation is found on page 15, lines 20-23, and page 26, line 6 to page 27, line 1. These sections convey that the CPU 1 analyzes commands for reading the original image and starting the print operation collectively issued by the host computer 200 in response to the depression of the copy key 259 and the start/stop key 251 (sequential depression of these two keys designates a single copying operation), and controls the scanner 10 to read an image. The read image to be stored in the RAM 3 is then transferred to the host computer 200 via the first bi-centro interface 30. After the image data processed by the host computer 200 is transferred back to the RAM 3 via the first bi-centro interface 30, the CPU 1 controls the image data to be transferred to the printer control unit 22 via the second bi-centro interface 40.

Claims 27 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,021,892 (Kita et al.). Claims 24 and 59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of U.S. Patent No. 4,989,163 (Kawamata et al.). Claims 24 and 59 were further rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of U.S. Patent No. 5,113,494 (Menendez et al.). Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of Kawamata et al. as applied to Claim 24, and further in view of U.S. Patent No. 5,218,458 (Kochis et al.). Claim 26 was further

rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of Menendez et al. as applied to Claim 24, and further in view of Kochis et al. Claim 29 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of Kochis et al. Claim 58 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of Kawamata et al. as applied to Claim 24, and further in view of U.S. Patent No. 5,900,947 (Kenmochi et al.). Claim 58 was further 35 U.S.C. § 103(a) as being unpatentable over Kita et al. in view of Menendez et al., and further in view of Kenmochi et al.

Applicants traverse the rejections to Claims 24 and 27. Reconsideration and withdrawal of the rejections are respectfully requested.

The aspect of the present invention set forth in Claim 24 is directed to an image processing device. The device comprises a scanner for reading an image of a document and outputting an image signal, a control unit including a control circuit adapted for controlling the device and performing image processing necessary for copying on the image signal output from the scanner to provide a first processed image signal, and a first bidirectional general-purpose interface for transmitting the image signal output by the scanner under control of the control unit to an external computer, which performs image processing necessary for copying on the transmitted image signal to provide a second processed image signal, and for receiving the second processed image signal from the external computer. The device further comprises a second bidirectional general-purpose interface of a same standard as said first bidirectional general-purpose interface adapted for outputting the first processed image signal and the second processed image signal to a printer, wherein the device has a plurality of modes including a first

copying mode, in which the image signal output from the scanner is outputted to the printer using the external computer, and a second copying mode, performed in sequence in response to a single designation, in which the image signal output from the scanner is outputted to the printer without using the external computer, the image signal from said scanner being transmitted in order of: the control unit, the first bidirectional general-purpose interface, the external computer, the first bidirectional interface, the control unit, and the second bidirectional general-purpose interface in the first copying mode so as to perform copying based on the second processed image signal, and the image signal from the scanner being transmitted in order of: the control unit and the second bidirectional general-purpose interface, in the second mode so as to perform copying based on the first processed image signal.

One important feature of Claim 24 is that during the first copying mode, after the image data is processed by an external computer, the image processing device receives the image data and outputs the image data to a printer.

The Office Action states that the first copying mode of the present invention is read as the Image Input Function in Kita et al. Kita et al. describes the Image Input Function in column 6, line 68 to column 7, line 4 in that the image data read by the scanner 2 is transmitted to the personal computer 8, which displays the image data on the CRT display and/or files it in a floppy disk. This operation, Image Input Function, lacks the latter half of processing of the first copying mode of the present invention, i.e., after the image data is processed by an external computer, the image processing device receives the image data and outputs the image data to a printer.

Further, the Office Action at page 5, lines 10 and 11, equates the receiving the second processed image signal from the external computer of the present invention, as recited in Claim 24, with data being sent from the computer to the printer passing through an interface.

Applicants respectfully disagree, and submit that nothing has been found in Kita et al. that teaches or suggests an image processing device receiving the second processed image signal from the external computer.

Still further, the Office Action asserts that the description at column 5, lines 64 to 68 describes the order of data flow in the first copying mode of the present invention.

Applicants respectfully disagree. Applicants understand the cited portion of Kita et al. as disclosing that the image data codec control portion 69 is operated when either of the events (1) to (4) occur. Applicants assert that the order of data flow is not described by the cited portion of Kita et al. Accordingly, Applicants submit that Claim 24 is patentable over Kita et al., taken alone.

Kawamata et al. and Menendez et al. are not seen to add anything to overcome the deficiencies of Kita et al. In particular, neither Kawamata et al. nor Menendez et al. are seen to disclose the first copying mode of the present invention.

Applicants submit that a combination of Kita et al., Kawamata et al. and/or Menendez et al., assuming such combinations would even be permissible, would fail to teach or suggest an image processing device, where after the image data is processed by an external computer, the image processing device receives the image data and outputs the image data to a printer.

Accordingly, Applicants submit that Claim 24 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claim 27 is a method claim corresponding to device Claim 24, and is believed to be patentable for at least the same reasons as discussed above in connection with Claim 24.

A review of the other art of record has failed to reveal anything that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as applied against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record.

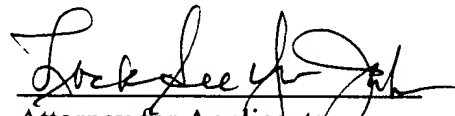
The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

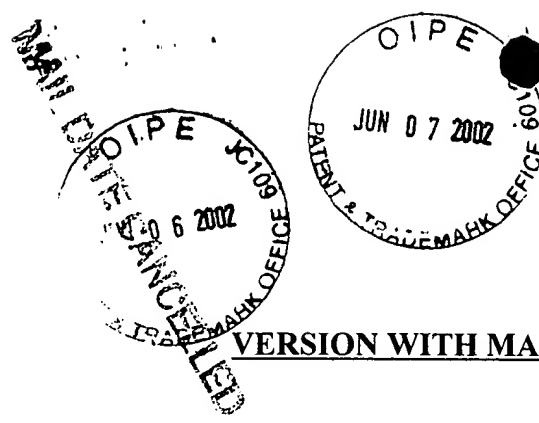
Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

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24. (Six Times Amended) An image processing device comprising:

a scanner for [inputting] reading an image of a document and outputting an image
signal;

a control unit including a control circuit adapted for controlling said device and
performing image processing necessary for copying on the image signal [input] output from said
scanner to provide a first processed image signal;

a first bidirectional general-purpose interface for transmitting the image signal
[input] output by said scanner under control of said control unit to an external computer, which
performs image processing necessary for copying on the transmitted image signal to provide a
second processed image signal, and for receiving the second processed image signal from the
external computer; and

a second bidirectional general-purpose interface of a same standard as said first
bidirectional general-purpose interface adapted for outputting the first processed image signal
and the second processed image signal to a printer,

wherein said device has a plurality of modes including a first copying mode, in
which the image signal [inputted] output from said scanner is outputted to said printer using the
external computer, and a second copying mode, performed in sequence in response to a single
designation, in which the image signal [inputted] output from said scanner is outputted to said

printer without using the external computer, the image signal from said scanner being [automatically] transmitted in order of: said control unit, said first bidirectional general-purpose interface, the external computer, said first bidirectional interface, said control unit, and said second bidirectional general-purpose interface in the first copying mode so as to perform copying based on the second processed image signal, and

the image signal from said scanner being transmitted in order of: said control unit and said second bidirectional general-purpose interface, in the second mode so as to perform copying based on the first processed image signal.

27. (Six Times Amended) An image processing method for an image processing device, said method comprising the steps of:

[inputting] reading an image of a document and outputting an image signal by a scanner;

performing image processing necessary for copying on the [input] output image signal by using a control unit for controlling the image processing device to provide a first processed image signal;

transmitting the image signal [input] output by the scanner under control of the control unit to an external computer via a first bidirectional general-purpose interface to be processed, by image processing necessary for copying, into a second processed image signal;

receiving the second processed image signal from the external computer via the first bidirectional general-purpose interface;

outputting the first or the second processed image signal to a printer via a second bidirectional general-purpose interface of a same standard as said first bidirectional general-purpose interface;

performing copying based on the second processed image signal in a first copying mode, in which the image signal [inputted] output from the scanner is outputted to the printer without using the external computer by transmitting the image signal from the scanner in order of: the control unit, the first bidirectional general-purpose interface, the external computer, the first bidirectional general-purpose interface, the control unit, and the [second bidirectional general-] second bidirectional general-purpose interface.